

WHAT IS CLAIMED IS:

1. A panel-form loudspeaker, comprising:
 - a radiating panel;
 - a frame for supporting and positioning said radiating panel;
 - a suspension unit disposed between said frame and the bottom periphery of said radiating panel, said suspension unit being made of a soft material;
 - a transducer comprising a voice coil unit and a magnet unit, said voice coil unit being coupled to said radiating panel at a specific location under said radiating panel; and
 - a linkage unit comprising a first linking portion coupled to said frame, a second linking portion coupled to said voice coil unit via a resilience support, and a third linking portion coupled to said magnet unit.
2. The panel-form loudspeaker according to claim 1 wherein said specific location is at the center of said radiating panel.
3. The panel-form loudspeaker according to claim 1 wherein said radiating panel is a laminate plate with an intermediate core layer sandwiched between two composite layers.
4. The panel-form loudspeaker according to claim 3 wherein said intermediate core layer of said laminate plate is made of Balsa wood (*Ochroma* spp.).
5. The panel-form loudspeaker according to claim 3 wherein said composite layer of said laminate plate is made of a material selected from a group consisting of a glass fiber-reinforced polymeric resin, a carbon fiber-reinforced polymeric resin, a Kevlar fiber-reinforced polymeric resin and a boron fiber-reinforced polymeric resin.
6. The panel-form loudspeaker according to claim 1 wherein said first linking portion comprises two hooks.

7. The panel-form loudspeaker according to claim 6 wherein said frame comprises two slots corresponding to said two hooks, respectively, so as to be engaged with said two hooks.

8. The panel-form loudspeaker according to claim 1 wherein said second linking portion comprises a ring-shaped protrusion.

9. The panel-form loudspeaker according to claim 1 wherein said third linking portion comprises a cylinder with a gap on the circumference thereof.

10. The panel-form loudspeaker according to claim 9 wherein said magnet unit comprises:

a top plate;

a permeance unit enclosed by the inner wall of said cylinder of the third linking portion; and

a permanent magnet disposed within said permeance unit, and having a top surface and a bottom surface coupled to said top plate and said permeance unit, respectively.

11. The panel-form loudspeaker according to claim 10 wherein said permeance unit is coupled to said third linking portion by means of a binder.

12. The panel-form loudspeaker according to claim 1 wherein there is at least one energy-attenuating hole in the vicinity of said second linking portion.

13. The panel-form loudspeaker according to claim 1 wherein said suspension unit is a one-piece soft strip.

14. The panel-form loudspeaker according to claim 13 wherein said suspension unit comprises a first part and a second part coupled to said radiating plate and said frame, respectively.

15. The panel-form loudspeaker according to claim 14 wherein said suspension unit further comprises a raised part between said first part and said second part.

16. A panel-form loudspeaker, comprising:

a radiating panel;

a frame for supporting and positioning said radiating panel;

a suspension unit disposed between said frame and the bottom periphery of said radiating panel, wherein said suspension unit is a one-piece soft strip;

a transducer comprising a voice coil unit and a magnet unit, said voice coil unit being coupled to said radiating panel at a specific location under said radiating panel; and

a linkage unit comprising a first linking portion coupled to said frame, a second linking portion coupled to said voice coil unit via a resilience support, and a third linking portion coupled to said magnet unit.

17. A panel-form loudspeaker, comprising:

a radiating panel;

a frame for supporting and positioning said radiating panel;

a suspension unit disposed between said frame and the bottom periphery of said radiating panel, said suspension unit being a one-piece soft strip and comprising a first part and a second part coupled to said radiating plate and said frame, respectively, and a raised part between said first part and said second part;

a transducer comprising a voice coil unit and a magnet unit, said voice coil unit being coupled to said radiating panel at a specific location under said radiating panel; and

a linkage unit comprising a first linking portion coupled to said frame, a second linking portion coupled to said voice coil unit via a resilience support, and a third linking portion coupled to said magnet unit.